

Traffic Model

In order to develop an efficient CTP for the Swansboro Planning Area, it was necessary to develop and calibrate a traffic model of the area. Developing a traffic model requires the following steps: defining the study area, collecting traffic counts and socioeconomic data, determining the trip generation characteristics of the study area, calibrating the traffic model so that it duplicates patterns of the study area, and projecting the socioeconomic data to the design year. Once the socioeconomic data has been projected, the model may be used to evaluate various street system problems and alternate solutions to the problems.

The Study Area

One of the first steps in the development of a CTP is to define the planning area. The planning area is generally the limits to which urbanization is expected to occur during the 30-year planning period.

Once established, the planning area is then subdivided into traffic analysis zones (TAZs). These zones were established based on similar land uses and census blocks. They facilitate the collection of data and the distribution of traffic. Figure 7 depicts the Swansboro Planning Area and TAZs.

The Street Network

The purpose of the traffic model is to replicate the conditions on the Town's street system. Therefore, it is necessary to represent the actual street system in the model in order to emulate the traffic patterns as closely as possible. Generally, all the major arterials and some of the major land access or collector streets are represented on the street system model. Figure 7 illustrates the planning area's modeled road network.

Street capacity is an important component of the model. The volume to capacity ratio (v/c) gives us our best indication of present and future traffic congestion. Speed and distance are the major factors that define the minimum time paths from zone to zone. The model uses the minimum time paths as the basis for assigning traffic to streets.